

<b>Interview Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/031,840	WOBBEN, ALOYS
	<b>Examiner</b>	<b>Art Unit</b>
	Krishnan S Menon	1723

All participants (applicant, applicant's representative, PTO personnel):

(1) Krishnan S Menon. (3) \_\_\_\_\_.

(2) Laura Shockey, Legal Assistant to Mr. Carlson. (4) \_\_\_\_\_.

Date of Interview: 26 August 2003.

Type: a) Telephonic b) Video Conference  
c) Personal [copy given to: 1) applicant 2) applicant's representative]

Exhibit shown or demonstration conducted: d) Yes e) No.  
If Yes, brief description: \_\_\_\_\_.

Claim(s) discussed: \_\_\_\_\_.

Identification of prior art discussed: \_\_\_\_\_.

Agreement with respect to the claims f) was reached. g) was not reached. h) N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: See Continuation Sheet.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an attachment to a signed Office action.

\_\_\_\_\_  
Examiner's signature, if required

## Summary of Record of Interview Requirements

### Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

### Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

### 37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

### Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: The applicant had filed a preliminary amendment with a substitute specification and claims on May 17, 02. Along with the amendment, applicant also included a translated copy of the PCT specification and claims. This resulted in the amendment having 3 sets of claims, numbered: set 1: claims 1-13; set 2: claims 1-10 and set 3 claims 1-11. Ms. Shockey, Legal Assistant to Mr. David Carlson, attorney of record, confirmed that pages marked 1-11 are the substituted specification with claims, these pages can be further identified by the secretarie's ref number in page 11, 412USPC-AP-A/250961\_1.DOC; and that claims 1-11 in pages 7-9 are the correct set of claims to be considered for examination. (Copy of the claims considered are attached herewith for confirmation).

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## CLAIMS

1. A method for desalting water, comprising:

salt water is introduced into a membrane module and is separated into desalinated water and concentrated salt water;

the salt water is conveyed at an increased pressure level from the pressure-compensating device, which comprises several piston devices, to the membrane module;

the concentrated salt water is discharged from the pressure-compensating device, transferring its pressure energy in the process;

salt water is introduced into the pressure-compensating device at a pressure level by means of a feed pump;

in front of the piston, the piston devices contain an intake chamber, which is connected to the feed pump and the membrane module, and in the rear of the piston they contain a discharge chamber, which is connected to the membrane module and a discharge line for concentrated salt water; and

during operation a pressure is exerted on a part of the piston by means of a hydraulic connection between the pressure chambers, which are located at the piston rear sides of the piston devices, to assist the pressure level, which is exerted on the piston by the concentrated salt water that has been introduced into the discharge chambers.

2. The method according to claim 1, wherein concentrated salt water alternately is introduced into the discharge chamber of one of several piston devices, whereby simultaneously the salt water conveyed from the intake chamber of the same piston device to the membrane module, and in that simultaneously salt water at a first pressure level is introduced into the intake chamber of a different piston device, whereby the concentrated salt water is discharged at a low pressure level from the discharge chamber of the same piston device.

3. The method according to claim 2, wherein the piston devices of the pressure-compensating device are controlled in such a manner that simultaneously salt water is introduced into the intake chamber of at least one of the piston devices, concentrated salt water is discharged from the discharge chamber of the same piston device, concentrated salt water is introduced into the discharge chamber of at least one

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other piston device, and salt water is conveyed from the intake chamber of the same piston device into the membrane device.

4. The method according to claim 1, characterized in that the piston devices are regulated by controllable intake- and discharge valves.

5. The method according to claim 1, wherein the pressure exerted on a part of the piston is a continuous pressure.

6. A reverse osmosis device for the continuous desalting of water, in particular for the desalting of sea water, comprising:

a membrane module to separate supplied salt water into desalinated water and concentrated salt water;

a pressure-compensating device, comprising several piston devices, to continuously introduce the salt water at an increased pressure level into the membrane module and to discharge the concentrated salt water, transferring its pressure energy in the process,

a feed pump to introduce salt water at a pressure level into the pressure-compensating device, whereby

in front of the piston, the piston devices possess an intake chamber, which is connected to the feed pump and the membrane module, and

in the rear of the piston, the piston devices possess a discharge chamber, which is connected to the membrane module and to a discharge line for concentrated salt water,

in the rear of the piston, the piston devices additionally possess a pressure chamber and the pressure chambers are hydraulically connected to each other, so that during operation a continuous pressure can be exerted on a part of the piston to assist the pressure, which is exerted on the piston by the concentrated salt water introduced into the discharge chamber.

7. The device according to claim 6, wherein the piston devices are controlled in such a manner that simultaneously salt water is introduced into an intake chamber of at least one piston device, concentrated salt water is discharged from the discharge chamber of the same piston device, concentrated salt water is introduced into the discharge chamber of at least one other piston device, and salt water is conveyed from the intake chamber of the same piston device to the membrane module.

8. The device according to claim 6, wherein the piston devices are regulated by controllable intake- and discharge valves.

9. The device according to claim 7, wherein the connecting lines from the membrane module to the discharge chambers of the piston devices, and the lines to discharge concentrated salt water from the discharge chambers are provided with actively controlled valves.

10. The device according to one of claim 5, wherein the pressure-compensating device contains three identical piston devices.

11. The device according to one of claim 5, wherein the pistons of the piston devices are designed in such a manner that the pressure level prevailing in the pressure chamber can act upon one quarter of the surface area of the piston rear side and the pressure level prevailing in the discharge chamber can act upon three quarters of the surface area of the piston rear side.